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037125-125 APPLICATION NO.	PENDING DATE 8 PENDING DATE	WELCH FIRST NAMED INVENTOR R	ATTORNEY DOCKET NO. 246-97-004
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MM41/0503

LEE, W	EXAMINER
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ART UNIT 2821	PAPER NUMBER
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DATE MAILED: 05/03/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

**Office Action Summary**Application No.  
**09/135,185**Applicant(s)  
**Welch et al.**Examiner  
**Wilson Lee**Group Art Unit  
**2821**☐ Responsive to communication(s) filed on \_\_\_\_\_☐ This action is **FINAL**.☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**☒ Claim(s) 1-8 is/are pending in the application.Of the above, claim(s) none is/are withdrawn from consideration.☐ Claim(s) \_\_\_\_\_ is/are allowed.☒ Claim(s) 1-8 is/are rejected.☐ Claim(s) \_\_\_\_\_ is/are objected to.☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.**Application Papers**☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.☒ The specification is objected to by the Examiner.☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119**☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been☐ received.☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)**☒ Notice of References Cited, PTO-892☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_☐ Interview Summary, PTO-413☒ Notice of Draftsperson's Patent Drawing Review, PTO-948☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ganser et al.(4,937,501, hereinafter "Ganser").

Regarding Claim 1, Ganser discloses a circuit arrangement comprising a high-pressure gas discharge lamp(8), a ignition unit(14) as a first means for providing high voltage through transformer(13) to the lamp to produce a first range of brightness(e.g. ignition) (See Figure 2 and Col. 5, lines 2-6), and voltage converter constituted by switches(5 and 6) as a second means for providing a second range of brightness for operating the lamp(See Figure 2 and Abstract).

Ganser does not explicitly disclose the second means providing a second range of brightness in the glow discharge mode. However, since the voltage in glow discharge mode is well known lower than the voltage in the breakdown mode(e.g. ignition), and Ganser's second means produce voltage which is lowered after the ignition as low as 20V(See Col. 2, lines 55-56),

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therefore, Ganser's second means inherently operates where the lamp(8) in the glow discharge mode.

Ganser, as discussed above, essentially discloses the claimed invention but fails to disclose a fluorescent lamp. However, it would have been obvious to one of ordinary skill in the art to use a low pressure fluorescent lamp in place of Ganser's high pressure discharge lamp(8) in order to alleviate the excessive losses at the wall of the tube.

Regarding Claim 2, Ganser discloses a delay switch(34) as a means for switching between the first and second means for providing electrical energy for a predetermined period(See Figure 2 and Col. 3, lines 56-65, Col. 6, lines 9-44, Col. 7, lines 52-60).

Regarding Claims 3, 4, 6 and 7, Ganser discloses the second means(5 and 6) for providing voltage that comprises a source of pulse width modulated bipolar current(I) of a level sufficient produced by the duty cycle regular(33) to maintain the operation of the lamp(8) in the glow discharge mode. In addition, Ganser discloses the bipolar current is a low frequency(300 Hz) square wave signal (See Figure 2 and Col. 4, lines 26-35).

Regarding Claim 5, Ganser discloses the first and second ranges of brightness inherently overlap, for instance, as small as the range of brightness overlapped on the 0-10V input voltage.

Regarding Claim 8, as described in detail in the preceding rejection on Claims 1 and 3, Ganser's circuit arrangement meets the limitation of Claim 8.

4. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts(4,709,188).

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Regarding Claim 1, Roberts discloses a ballast comprising an arc discharge lamp(20), a starting circuit(21) as a first means for providing high voltage through transformers(22a and 22b) to the lamp(20) to produce a first range of brightness(e.g. startup) (See Figure 2 and Col. 3, lines 34-39), and oscillator means as a second means for providing a second range of brightness where the lamp(20) operates in the glow mode(See Col. 2, lines 31-33).

Roberts, as discussed above, essentially discloses the claimed invention but fails to disclose a fluorescent lamp. However, it would have been obvious to one of ordinary skill in the art to use a low pressure fluorescent lamp in place of Roberts' high pressure discharge lamp(8) in order to alleviate the excessive losses at the wall of the tube.

Regarding Claim 5, Roberts discloses the first and second ranges of brightness inherently overlap.

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Moisin et al.(5,583,402) discloses the change of the duty cycle ratio effects the desired level of brightness. Cockram(4,914,356) discloses a controller having a pulse width modulator for controlling the polarity of current supplied to the lamp and an ignition circuit for starting up the lamp.

### *Correspondence*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (703) 306-3426.

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7. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.
8. Papers related to Technology Center 2800 applications **only** may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 308-7722 or (703) 308-7724.

WL  
April 23, 1999

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